2020
ZOOLOGY
[HONOURS]
Paper : I
[NEW SYLLABUS]

Full Marks : 75   Time : 4 Hours

The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** questions from the following:

$1×5=5$

a) What is Paedomorphosis?

b) What is Tiedmann's body?

c) What is moulting?

d) What is rete mirabile?

e) What is syngen?

f) Write down the scientific name of an Indian poisonous snake.

g) Write two important characters of class Reptilia.

2. Answer any **six** questions from the following:

$2×6=12$

a) Distinguish between physostomous and physoclistous types of swim bladder in fish.

b) State the significance of water vascular system in Echinodermata.

c) Distinguish between horns of Rhino and Cow.

d) Distinguish between polyp and medusa.

e) Distinguish between foramen ovale and foramen panizza.

f) What is metachronal rhythm? In which animal it is found?

g) Distinguish between Artiodactyla and Perissodactyla.

h) What are taenidia? In which animal it is found?

i) Distinguish between hemimetabolous and holometabolus types of metamorphosis in insects.

j) What is corpus callosum? What are its functions?

3. Answer any **three** questions from the following:

$6×3=18$

a) What is stone canal? Describe the structure

and function of tube-feet of water vascular system in *Asterias*. 1+5=6

b) What is dentition? Give a short note on origin and structure of teeth in mammals. Comment on the structure of Elephant's tusk.

1+4+1=6

c) What is corpora quadrigemina? Compare the brain of a reptile with that of a mammal.

2+4=6

d) State the salient features of sub-kingdom Protozoa. Classify the sub-kingdom upto sub-phyla giving characters and examples.

2+4=6

e) What is canal system? Describe leuconoid type of canal system in sponges. 2+4=6

4. Answer any **four** questions from the following:

10×4=40

a) i) Add a note on air-sacs in Pigeon with functions. 5

ii) Describe biting mechanism of a poisonous snake with proper diagrams. What is snake venom? $3\frac{1}{2}+1\frac{1}{2}$

b) i) What is swim bladder? Give a short note on swim bladder in fishes. 1+4=5

ii) What is haemolymph? Describe circulatory system in *Periplaneta* with suitable diagrams. 1+4=5

c) i) Give a note on modifications of the pronephric and mesonephric ducts in male and female amniotes. 5

ii) Make a short note on development of coelom and functions. 3+2=5

d) i) Describe the structure of a typical feather in birds.

ii) Draw and describe a ruminant stomach.

e) i) Describe excretion in *Branchiostoma* with suitable diagram.

ii) Give a short note on anatomical peculiarities and affinities of *Sphenodon*.

f) i) What is ctenidium? Describe aquatic respiration in *Pila* with suitable diagrams. 2+3=5

ii) Comment on affinities and phylogenetic position of Dipnoi. 5

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